

CLAIM AMENDMENTS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 - 10 (canceled).

Claim 11 (currently amended). An optical module, comprising:

a circuit carrier;

a semiconductor element and a housing encasing said semiconductor element disposed on said circuit carrier; and

a lens unit disposed for projecting electromagnetic radiation onto said semiconductor element, said lens unit including at least one lens a plurality of mutually aligned lenses and a lens support supporting said lens plurality of lenses, said lens support forming an integral component of said housing of said semiconductor element;

wherein said lens support is formed of a thermoplastic material and said housing is formed of a thermosetting material; and

wherein only one lens of said plurality of lenses is in direct contact with said lens holder.

Claim 12 (canceled).

Claim 13 (currently amended). The optical module according to claim 11, wherein said lens support supporting said ~~at least one lens~~ plurality of lenses is integrally formed in one piece with said housing.

Claim 14 (canceled).

Claim 15 (currently amended). The optical module according to claim 11, wherein said lens support supporting said ~~at least one lens~~ plurality of lenses is formed on said housing of said semiconductor element.

Claim 16 (previously presented). The optical module according to claim 15, wherein said lens support is formed onto said housing in a two-component injection process.

Claim 17 (canceled).

Claim 18 (currently amended). The optical module according to claim 11, ~~wherein said lens unit includes a further comprising: at least one diaphragm,~~ wherein said plurality of lenses in form of ~~are formed as~~ a package, wherein the ~~said plurality of lenses and at least one~~ said diaphragm are in direct contact with one another, and relative positions of said plurality of lenses and said diaphragm relative to one another are defined by a geometry of said plurality of lenses and/or of said diaphragm.

Claim 19 (currently amended). The optical module according to claim 11, wherein said lens unit includes a plurality of lenses in form of are formed as a package, wherein the said plurality of lenses are in direct contact with one another, and positions of said plurality of lenses relative to one another are defined by a geometry of said plurality of lenses.

Claim 20 (canceled).

Claim 21 (currently amended). The optical module according to claim 20 11, wherein said one lens is sealed watertight and dustproof with said lens holder.

Claim 22 (currently amended). The optical module according to claim 20 11, wherein said one lens is attached to said lens holder by at least one connection selected from ultrasound, laser soldering, and adhesives.

Claim 23 (currently amended). The optical module according to claim 20 11, wherein said plurality of lenses are snapped into said lens holder by latching engagement.

Claim 24 (currently amended). The optical module according to claim 23, wherein said lenses, said one lens or an optional diaphragm, are is formed with a relatively hard component and a relatively soft component for forming a watertight and dustproof seal, and said soft component forms a seal in an area of said lenses.

Claim 25 (currently amended). The optical module according to claim 42 11, which comprises a retaining element attaching said plurality of lenses in said lens support.

Claim 26 (currently amended). The optical module according to claim 25, wherein said retaining element has a relatively hard component and a permanently elastic component formed on an area adjoining said at least one lens for forming a seal and compensating for stress, and wherein said hard component of said retaining element is joined to said lens holder.

Claim 27 (previously presented). The optical module according to claim 26, wherein said hard component is attached to said lens support by one or more attachment methods selected from the group consisting of ultrasound, laser soldering, adhesive or riveting processes, and a snap or screw connection.

Claim 28 (previously presented). The optical module according to claim 11, which comprises pigments applied to said lens support for setting a black and/or dull or totally reflective finish, for preventing unwanted optical effects.

Claim 29 (previously presented). The optical module according to claim 28, wherein said pigments are disposed to prevent unwanted optical effects due to a lateral incidence of light.

Claim 30 (canceled).

Claim 31 (currently amended). An optical module, comprising:

a circuit carrier;

a semiconductor element and a housing encasing said semiconductor element disposed on said circuit carrier; and

a lens unit disposed for projecting electromagnetic radiation onto said semiconductor element, said lens unit including a plurality of mutually aligned lenses and for projecting the electromagnetic radiation onto said semiconductor element, said lens unit including a lens support supporting said plurality of lenses, said lens support forming an integral component of said housing of said semiconductor element;

said plurality of lenses snapped into said lens holder by latching engagement.

Claim 32 (previously presented). The optical module according to claim 31, wherein at least one of said plurality of lenses is formed with a relatively hard component and a relatively soft component for forming a watertight and dustproof seal, and said soft component forms a seal in an area of said plurality of lenses.

Claim 33 (previously presented). The optical module according to claim 31, further comprising a diaphragm formed with a relatively hard component and a

relatively soft component for forming a watertight and dustproof seal, said soft component forming a seal in an area of said plurality of lenses.

Claim 34 (currently amended). An optical module, comprising:

a circuit carrier;

a semiconductor element and a housing encasing said semiconductor element disposed on said circuit carrier; and

a lens unit disposed for projecting electromagnetic radiation onto said semiconductor element, said lens unit including a plurality of mutually aligned lenses and a lens support supporting said plurality of lenses, said lens support forming an integral component of said housing of said semiconductor element;

only one lens of said plurality of lenses being in direct contact with said lens holder;

said plurality of lenses including at least two separate lenses.

Claim 35 (previously presented). The optical module according to claim 34, wherein said one lens is sealed watertight and dustproof with said lens holder.

Claim 36 (new). The optical module according to claim 35, wherein said one lens is formed with a relatively hard component and a relatively soft component for forming a watertight and dustproof seal, and said soft component forms a seal in an area of said plurality of lenses.

Claim 37 (new). The optical module according to claim 34, further comprising: at least one diaphragm, wherein said plurality of lenses are formed as a package, wherein said plurality of lenses and said diaphragm are in direct contact with one another, and relative positions of said plurality of lenses and said diaphragm relative to one another are defined by a geometry of said plurality of lenses and/or of said diaphragm.

Claim 38 (new). An optical module, comprising:

a circuit carrier;
a semiconductor element and a housing encasing said semiconductor element disposed on said circuit carrier; and
a lens unit disposed for projecting electromagnetic radiation onto said semiconductor element, said lens unit including a plurality of mutually aligned lenses and a lens support supporting said plurality of lenses, said lens support forming an integral component of said housing of said semiconductor element;
only one lens of said plurality of lenses being in direct contact with said lens holder;
said one lens being sealed watertight and dustproof with said lens holder.